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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,084	12/21/2001	Paul J. Mason	65856-0034	3412

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EXAMINER

JOYCE, WILLIAM C

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/029,084

Applicant(s)

MASON ET AL.

Examiner

William C. Joyce

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the communication filed October 9, 2003 for the above identified patent application.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "outer tube shaft" and the "stepped diameter inner tube shaft" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15, the limitation "wherein an outer tube shaft supports one of said cones rigidly secured thereon, and a stepped diameter inner tube shaft supports the second of said cones, each respect tube shaft supported on a plurality of spaced pilot bearings" is

not fully understood. Figure 3 appears to show a first shaft (52) supporting a first cone (14') and a second tubular shaft (50) supporting a second cone (12'), wherein the outside diameter of the first cone is supported on the inner diameter of the second tubular shaft via bearings (54,56). Figure 3 does not appear to illustrate the inner tube shaft having a stepped diameter, or the second shaft being formed as a tube.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-9, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohn (US Patent 1,459,979).

Kohn discloses a CVT (Fig. 3) having a pair of axially spaced cones (35,36), a countershaft (51), a pair of wheels (53) mounted on the counter shaft, wherein the countershaft is configured to pivot about a pivot axis.

Kohn does not disclose each wheel of the pair of wheels having different diameters, but shows the wheels having the same diameter. It would have been an obvious matter of design choice to vary the size of the wheels, since such a modification would involve a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCCPA 1955). Further, it was well known in the art to change the diameter of a

gear and/or a friction wheel so as to vary the ratio between mating components. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the size of the wheels disclosed by Kohn, so that one of the pair of wheels is larger than the other one of the pair of wheels, motivation being to adjust the ratio between mating components.

Kohn does not teach the CVT having either two or three countershafts, but illustrates only one countershaft. However, it would have been obvious to one in the art to modify the device of Kohn with either two or three countershafts, motivation being to provide a transmission having a greater operating capacity.

With respect to claim 3, the limitation "via a forging process" is a method limitation in an apparatus claim and therefore is given limited weight. If the invention is in how the transmission component is made, Examiner suggests that applicant pursue claims drawn to the method of making the transmission component. An apparatus claim must define over the prior art in terms of its structure and not the method from which the apparatus is made. Further, the process of forging was known in the art for manufacturing transmission components to provide a relatively inexpensive component. It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrally form the discs and countershafts of Kohn by forging, motivation being to provide a relatively inexpensive component which is easily assembled in the transmission.

With respect to claim 9, Kohn does not disclose software configured to control axial movements of the trunnion, but teaches a manual lever (55) used to set the

position of the power wheels. It was well known in the transmission art to change a speed of a transmission using an automated mechanism having software. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Kohn with an actuator having software for setting the transmission speed, motivation being to provide a mechanized device.

With respect to claim 15, Kohn does not appear to disclose an outer tube shaft supports one of said cones rigidly secured thereon, and a stepped diameter inner tube shaft supports the second of said cones, each respect tube shaft supported on a plurality of spaced pilot bearings. Kohn illustrates an input and an output shaft (28,37) supporting the cone members (35,36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the shaft members of Kohn as tubular member each having an inside and an outside diameter, motivation being to reduce the weight and cost of the shafts. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to support each shaft of Kohn with a plurality of spaced bearings, motivation being to more rigidly support each shaft within the transmission housing.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kohn (US Patent 1,459,979) as applied to claim 13 above, and further in view of either Tsukada et al. (US Patent 6,174,260) or Edlich (US Patent 3,302,474).

Kohn does not teach a second gear box used in combination with the CVT, however it was well known in the art to use two gearboxes in series to provide an

increased gear reduction for the transmission. For example, either Tsukada et al. or Edlich teach a CVT connected to a second gearbox for providing a desired gear reduction. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the CVT of Kohn with a second gearbox, as taught by either Tsukada et al. or Edlich, motivation being to provide a greater gear reduction for the transmission.

Response to Arguments

7. Applicant's arguments filed October 9, 2003 have been fully considered but they are not persuasive with respect to Kohn. It is considered to be within the skill in the art to vary the diameter of a wheel with the motivation to vary a speed ratio between mating frictional components.

Allowable Subject Matter

8. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (703) 305-5114. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on (703) 308-3668. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


William C. Joyce 12/22/03